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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,707	12/15/2005	George Marmaropoulos	US030209US	6795
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EXAMINER				
PIZZALI, ANDREW T				
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1794				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/560,707

Applicant(s)

MARMAROPOULOS ET AL.

Examiner

Andrew T. Piziali

Art Unit

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 21-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 21-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB06)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ ~~Notes of Informal Patent Application~~
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The amendment filed on 1/8/2010 has been entered.

Specification

2. The amendment filed 1/8/2010 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: The original specification is silent regarding a user seeing an indication of what response may result from interaction with the interface. Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 6, 8, 29 and 30 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Regarding claim 6, the specification is silent regarding the actuator being formed from a material that is more rigid than the conductive elastomeric material. Rather, the specification merely discloses that actuator is preferably formed from a "relatively rigid material" without teaching or suggesting that the conductive elastomeric material is the material which is relative.

Regarding claim 8, the specification is silent regarding an actuator showing an indication of a response. Rather, the actuator merely provides a user interface between a user and the conductive elastomeric material.

Regarding claim 29, the specification is silent regarding a conductive fluid sleeve. Rather, the specification mentions a semi-fluid sleeve (page 6, lines 1-19).

5. Claims 1-9 and 21-31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claim 1, the specification fails to disclose how to make a textile construction wherein an actuator moves or mechanically interacts with a conductive elastomeric material to cause the conductive elastomeric material to produce a signal. For example, the specification fails to disclose how to make a signal via the movement or mechanical interaction between the actuator and the conductive elastomeric material.

Regarding claim 2, the specification does not enable one skilled in the art to make or use the textile of claim 1 wherein one or more characteristics of the conductive elastomeric material change in response to an interaction.

Regarding claim 8, the specification does not enable one skilled in the art to make or use an actuator that depicts a response to interaction with a user interface.

Regarding claim 9, the specification does not enable one skilled in the art to make or use the textile of claim 1 wherein one or more characteristics of the conductive elastomeric material change in proportional response to an interaction wherein said interaction causes one or more areas of the conductive elastomeric material to be displaced.

Regarding claim 21, the specification does not enable one skilled in the art to make or use an actuator that cooperates with one or more conductive areas.

Regarding claim 22, the specification does not enable one skilled in the art to make or use one or more conductive areas wherein one or more characteristics change in response to an interaction with an actuator.

Regarding claim 23, the specification does not enable one skilled in the art to use said displacement ratio as claimed.

Regarding claim 24, the specification does not enable one skilled in the art to cause one or more areas of the conductive elastomeric material to be displaced by the conductive elastomeric material interaction in addition to the actuator interaction.

Regarding claims 25-27, the specification does not enable one skilled in the art to make or use the interface to be operable as claimed.

Regarding claim 28, the specification does not enable one skilled in the art to make or use a conductive fiber having a conductive threadlike core.

Regarding claims 29-31, the specification does not enable one skilled in the art to make or use a conductive fiber with a conductive fluid or semi-fluid sleeve.

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6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 30 and 31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 30, there is insufficient antecedent basis for "semi-fluid sleeve."

Regarding claims 30 and 31, the phrase "semi-fluid sleeve" renders the claims indefinite. It is not clear what materials are considered semi-fluid, thereby rendering the scope of the claim unascertainable.

Claim Rejections - 35 USC § 102/103

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-6, 8, 9 and 21-27 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over USPN 6,360,615 to Smela.

Smela discloses a textile construction comprising: a conductive elastomeric material (stretchable responsive material) suitable for converting an interaction therewith into a signal; and an actuator (fastening strap) that operates with said conductive elastomeric material to provide a user interface such that a user interaction with the actuator does one of move and mechanically interact with the conductive elastomeric material to cause the conductive elastomeric material to produce the signal, wherein said actuator is in contact with a surface of the conductive elastomeric material and is formed from plastic (see entire document including the Figures, column 4, lines 18-34, and column 7, lines 8-67).

In the event that it is shown that the applied prior art does not disclose the claimed embodiment with sufficient specificity, the invention is obvious because the prior art specifically discloses the claimed constituents.

Regarding claim 2, one or more characteristics (e.g., resistance) of the conductive elastomeric material changes in response to the interaction (column 4, lines 18-34 and column 7, lines 7-12).

Regarding claim 3, the conductive elastomeric material has piezoelectric characteristics (column 7, lines 59-67).

Regarding claim 4, the conductive elastomeric material comprises any of the claimed conjugated polymers or ion-implanted polymer (column 7, line 59 through column 8, line 3).

Regarding claim 5, the conductive elastomeric material can have one or more of the claimed elements (column 8, lines 4-6).

Regarding claim 6, the actuator (fastening strap) must remain in place during movement while the conductive elastomeric material flexes during movement and is made of “flexible” metal coated-fabric (column 8, lines 4-6). Therefore, it appears that the actuator is formed from a material that is more rigid than the conductive elastomeric material.

Regarding claim 8, the actuator shows an indication of a response (movement) to interaction with the user interaction (see Figures).

Regarding claim 9, one or more characteristics of said conductive elastomeric material changes in proportional response to said interaction, said interaction causing one or more areas of said conductive elastomeric material to be displaced (column 9, lines 3-8).

Regarding claims 21, the actuator is cooperative with one or more conductive areas (see Figures).

Regarding claim 22, one or more characteristics of said one or more conductive areas change in response to an interaction with said actuator (column 7, lines 8-13).

Regarding claim 23, the intended use recitation of the claimed invention does not result in a structural difference between the claimed invention and the prior art.

Regarding claim 24, the interaction causes one or more areas of said conductive elastomeric material to be displaced without requiring a lateral displacement of said actuator (see Figures).

Regarding claims 25-27, considering that the textile construction disclosed by the applied prior art is substantially identical to the claimed textile construction, the user interface is inherently operable as claimed.

11. Claims 1-9 and 21-31 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over USPAP 2002/0075232 to Daum.

Daum discloses a textile construction comprising: a conductive (elastomeric) rubber material layer suitable for converting an interaction therewith into a signal; and an actuator (outer rubber layer) that operates with said conductive rubber to provide a user interface such that a user interaction with the actuator does one of move and mechanically interact with the conductive rubber to cause said conductive rubber to produce a signal, wherein said actuator is in contact with a surface of said conductive rubber and is also formed from rubber (see entire document including the Figures, [0009], [0033], [0035], [0038], [0039], [0047]).

In the event that it is shown that the applied prior art does not disclose the claimed embodiment with sufficient specificity, the invention is obvious because the prior art specifically discloses the claimed constituents.

Regarding claim 2, one or more characteristics (e.g., resistance) of the conductive elastomeric material changes in response to the interaction ([0037] and [0038]).

Regarding claim 3, the conductive elastomeric material has piezoelectric characteristics ([0037] and [0038]).

Regarding claim 4, the conductive rubber may comprise a conjugated polymer [0034].

Regarding claim 5, the conductive elastomeric material can have one or more of the claimed elements (Figures and [0039]).

Regarding claims 6 and 7, the rubber actuator material is more rigid than the conductive rubber layer because the conductive rubber layer includes conductive particles [0035].

Regarding claim 8, the actuator shows an indication of a response (movement) to interaction with said user interface.

Regarding claim 9, one or more characteristics of said conductive elastomeric material changes in proportional response to said interaction, said interaction causing one or more areas of said conductive elastomeric material to be displaced ([0038], [0039], and [0047]).

Regarding claims 21, the actuator is cooperative with one or more conductive areas ([0047]).

Regarding claim 22, one or more characteristics of said one or more conductive areas change in response to an interaction with said actuator ([0038] and [0047]).

Regarding claim 23, the intended use recitation of the claimed invention does not result in a structural difference between the claimed invention and the prior art.

Regarding claim 24, the interaction causes one or more areas of said conductive elastomeric material to be displaced without requiring a lateral displacement of said actuator ([0038] and [0047]).

Regarding claims 25-27, considering that the textile construction disclosed by the applied prior art is substantially identical to the claimed textile construction, the user interface is inherently operable as claimed.

Regarding claims 28-31, Daum discloses that the conductive elastomeric material is formed from conductive fibers having a conductive core ([0039]).

Claim Rejections - 35 USC § 103

12. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,360,615 to Smela as applied to claims 1-6, 8, 9 and 21-27 above, and further in view of USPN 6,102,878 to Nguyen.

Smela discloses that fastening straps may comprise VELCRO material (column 7, lines 13-27), but Smela does not appear to specifically mention rubber material. Nguyen discloses that it is known in the finger strap art to use VELCRO or rubber (see entire document including column 3, lines 37-56). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute rubber for the VELCRO, because it is within the general skill of a worker in the art to select a known material on the basis of its suitability and desired characteristics.

The substitution of known equivalent structures involves only ordinary skill in the art. *In re Fout* 213 USPQ 532 (CCPA 1982); *In re Susi* 169 USPQ 423 (CCPA 1971); *In re Siebentritt* 152 USPQ 618 (CCPA 1967); *In re Ruff* 118 USPQ 343 (CCPA 1958). When a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result. *KSR v. Teleflex*.

13. Claims 28-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,360,615 to Smela as applied to claims 1-6, 8, 9 and 21-27 above, and further in view of USPAP 2002/0075232 to Daum.

Smela discloses that the elastomeric conductive material may be a metal coated fabric (column 8, lines 4-6), but Smela does not appear to specifically mention the elastomeric conductive material being formed from conductive fibers having a conductive core. Daum discloses that it is known in the wearable strain-gauge device art to use conductive fibers having a conductive core to measure strain change (see entire document including [0039]). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the conductive material disclosed by Daum for the conductive material of Smela, because it is within the general skill of a worker in the art to select a known material on the basis of its suitability and desired characteristics.

The substitution of known equivalent structures involves only ordinary skill in the art. *In re Fout* 213 USPQ 532 (CCPA 1982); *In re Susi* 169 USPQ 423 (CCPA 1971); *In re Siebentritt* 152 USPQ 618 (CCPA 1967); *In re Ruff* 118 USPQ 343 (CCPA 1958). When a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result. *KSR v. Teleflex*.

14. Claims 28-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,360,615 to Smela as applied to claims 1-6, 8, 9 and 21-27 above, and further in view of USPN 5,346,649 to Karna.

Smela discloses the use of electrically conductive coated plastic fibers (column 7, lines 33-58), but Smela does not appear to specifically teach the claimed core conductive fiber material. Karna discloses that intrinsically electrically conducting plastic material is known (see entire document including column 1, lines 6-35). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the conductive fibers from any suitable material, such as that disclosed by Karna, because the fibers are lightweight, possess advantages mechanical properties, possess good corrosion resistance, and/or because the fibers are low cost (column 1, lines 17-27), and because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability and desired characteristics.

The substitution of known equivalent structures involves only ordinary skill in the art. *In re Fout* 213 USPQ 532 (CCPA 1982); *In re Susi* 169 USPQ 423 (CCPA 1971); *In re Siebentritt* 152 USPQ 618 (CCPA 1967); *In re Ruff* 118 USPQ 343 (CCPA 1958). When a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result. *KSR v. Teleflex*.

Response to Arguments

15. Applicant's arguments filed 1/8/2010 have been fully considered but they are not persuasive.

Regarding claim 6, the applicant asserts that the specification provides written support. The examiner respectfully disagrees. The specification is silent regarding the actuator being formed from a material that is more rigid than the conductive elastomeric material. Rather, the specification merely discloses that actuator is preferably formed from a "relatively rigid material" without teaching or suggesting that the conductive elastomeric material is the material which is relative.

Regarding claim 8, the applicant asserts that the Figures provide written support. The examiner respectfully disagrees. The specification, including the Figures, is silent regarding an actuator showing an indication of a response. Rather, the actuator merely provides a user interface between a user and the conductive elastomeric material.

The applicant asserts that the article of Smela does not provide a user interface and that the actuator fails to operate with the conductive rubber material to produce a signal as claimed. The examiner respectfully disagrees. Smela discloses a textile construction comprising: a conductive elastomeric material (stretchable responsive material) suitable for converting an interaction therewith into a signal; and an actuator (fastening strap) that operates with said conductive elastomeric material to provide a user interface such that a user interaction with the actuator does one of move and mechanically interact with the conductive elastomeric material to cause the conductive elastomeric material to produce the signal, wherein said actuator is in

contact with a surface of the conductive elastomeric material and is formed from plastic (see entire document including the Figures, column 4, lines 18-34, and column 7, lines 8-67).

The applicant asserts that the article of Daum does not provide a user interface and that the actuator fails to operate with the conductive rubber material to produce a signal as claimed. The examiner respectfully disagrees. Daum discloses a textile construction comprising: a conductive (elastomeric) rubber material layer suitable for converting an interaction therewith into a signal; and an actuator (outer rubber layer) that operates with said conductive rubber to provide a user interface such that a user interaction with the actuator does one of move and mechanically interact with the conductive rubber to cause said conductive rubber to produce a signal, wherein said actuator is in contact with a surface of said conductive rubber and is also formed from rubber (see entire document including the Figures, [0009], [0033], [0035], [0038], [0039], [0047]).

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T. Piziali whose telephone number is (571) 272-1541. The examiner can normally be reached on Monday-Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on (571) 272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew T Piziali/
Primary Examiner, Art Unit 1794